

REMARKS

This application has been reviewed in light of the Office Action dated October 6, 2004. Claims 1-9 are presented for examination. Various ones of the claims have been amended merely to improve their form. No change in scope is either intended or believed effected by those amendments, which have not been made for purposes relating to patentability. Favorable reconsideration is requested in view of the following comments.

Claims 1, 3, 5, 7 and 9 were rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,066,922 (*Iwasaki et al.*). Claims 2, 4, 6 and 8 were rejected under 35 U.S.C. 103(a) as being unpatentable over *Iwasaki et al.* in view of U.S. Patent 6,794,666 (*Choi et al.*).

Independent Claim 1, as amended, recites:

"1. A driving method for an electron-emitting device in which an electron-emitting member including a plurality of carbon fibers is made to emit electrons by a voltage being applied between a cathode electrode on which the electron-emitting member is formed and a counter electrode disposed in opposition to the cathode electrode, the method comprising the step of:

applying a driving voltage V smaller than a maximum applied voltage Vmax between the cathode electrode and the counter electrode to drive the electron-emitting device, the maximum applied voltage Vmax being a maximum voltage applied between the cathode electrode and the counter electrode before a start of driving."

Section 3 of the Office Action states that *Iwasaki et al.* teaches "an electron-emitting member including a plurality of carbon fibers (column 5, lines 47-56)." In Applicants' view, on the other hand, that portion of *Iwasaki et al.* states merely that:

"Moreover, carbon such as diamond, Fullerene (C_{2n}) and the like or metal carbide such as Al₄C₃, B₄C, CaC₂, Cr₃C₂, Mo₂C, MoC, NbC, SiC, TaC, TiC, VC, W₂C, WC, ZrC and the like are also effective as the dielectric material of the insulator layer 13. Fullerene (C_{2n}) consists of carbon atoms. The representative C₆₀ is a spherical surface

basket molecule as known a soccer ball molecule. There is also known C₃₂ to C₉₆₀ and the like. The subscribed x in O_x, N_x and the like in the above chemical formulas represent atomic ratios and also herein after."

(See column 5, lines 47-56 of *Iwasaki et al.*) (Emphasis added).

However, carbon fibers are not seen to be mentioned, taught, or suggested in the foregoing portion of *Iwasaki et al.*, let alone an electron-emitting device made to emit electrons from the carbon fibers, as recited in Claim 1. Instead, the cited portion of *Iwasaki et al.* refers to a spherical surface basket molecule C₆₀ as an example of fullerene. In *Iwasaki et al.*, an electron-emitting device is of the Metal/Insulator/Metal (MIM) type, and fullerene is used as a material of the insulator. However, nothing has been found, or pointed out, in *Iwasaki et al.* that would teach or suggest an electron-emitting device in which carbon fibers are used as an electron-emitting, as recited in Claim 1.

Because *Iwasaki et al.* is not seen to teach or suggest carbon fibers in the context of the subject matter of Claim 1, *Iwasaki et al.* cannot anticipate the subject matter of that claim, because it is well established that “[a] claim is anticipated only if each and every element as set forth in the claim is found . . . in a single prior art reference.”

M.P.E.P. § 2131 (citation omitted). For this reason, Claim 1 is believed to be clearly patentable over *Iwasaki et al.*

Independent Claims 3, 5, 7, and 9 recite features that are similar in many respects to those of Claim 1 relating to carbon fibers emitting electrons in an electron-emitting device, and also are believed to be clearly patentable over *Iwasaki et al.* for substantially the same reasons as is Claim 1.

Claims 2, 4, 6 and 8 were rejected under 35 U.S.C. 103(a) as being unpatentable over *Iwasaki et al.* in view of U.S. Patent No. 6,794,666 (*Choi et al.*).

Each of these claims depends from a corresponding one of the independent claims discussed above, and therefore incorporates all of the subject matter of its corresponding independent claim therein. Claims 2, 4, 6, and 8 each are believed to be clearly patentable over *Iwasaki et al.* for the same reasons as are the corresponding independent claims.

Choi et al. discloses technology of Electron Beam (EB) lithography, and, as the Office Action recognizes, an electron emission source using a carbon nanotube (see column 3, lines 11-14).

Because *Iwasaki et al.* employs fullerene as a material of the insulator, whereas *Choi et al.* discloses an electron emission source using a carbon nanotube, it is not clear how one skilled in the would be able to successfully combine those references in the manner proposed in the Office Action. For this reason, it is respectfully submitted that it would not have been obvious for one skilled in the art to combine *Iwasaki et al.* and *Choi et al.* as posited in the Office Action.

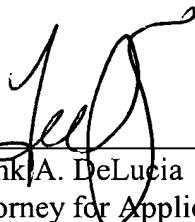
Moreover, even assuming *arguendo* that *Iwasaki et al.* and *Choi et al.* were combinable, any such combination still would not teach or suggest an electron-emitting device in which carbon fibers are used as an electron-emitting member, in the context of the subject matter of Claims 2, 4, 6, and 8.

In view of the foregoing, Claims 2, 4, 6, and 8 are believed to be patentable over *Iwasaki et al.* and *Choi et al.*, whether considered separately or combination, and thus withdrawal of the rejection of those claims is respectfully requested.

In view of the foregoing remarks, Applicants respectfully request favorable reconsideration and early passage to issue of the present application.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,



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